

What is claimed is:

1. An exhaust-gas muffler for an internal combustion engine including for an internal combustion engine in a portable handheld work apparatus, the exhaust-gas muffler comprising:

a muffler housing having an inlet opening and an outlet;

5 said muffler housing including an attenuating space formed therein;

a resonance pipe fluidly connected to said inlet opening; and,

10 said muffler housing including an upper half shell and a lower half shell and said half shells at least partially delimiting said resonance pipe.

2. The exhaust-gas muffler of claim 1, wherein a partition wall is mounted between said half shells.

3. The exhaust-gas muffler of claim 2, wherein said partition wall delimits said resonance pipe.

4. The exhaust-gas muffler of claim 3, wherein a first longitudinal section of said resonance pipe is formed by said lower half shell and said partition wall and a second longitudinal section of said resonance pipe is formed by said upper half shell and said partition wall.

5 The exhaust-gas muffler of claim 4, wherein said partition wall defines a connecting opening between said first and second longitudinal sections.

6. The exhaust-gas muffler of claim 1, wherein said upper and lower half shells conjointly define said muffler housing.

7. The exhaust-gas muffler of claim 1, wherein said lower half shell includes said inlet opening; and, said outlet is formed in said lower half shell.

8. The exhaust-gas muffler of claim 1, wherein said housing has attachment openings; and, said upper half shell, said lower half shell and said partition wall are connected seal tight to each other in the region of said attachment openings.

9. The exhaust-gas muffler of claim 1, wherein the end of said resonance pipe facing away from said inlet opening is configured to be closed.

10. The exhaust-gas muffler of claim 1, wherein said inlet into said attenuating space is configured as a diaphragm.

11. The exhaust-gas muffler of claim 10, wherein said diaphragm is configured in said partition wall and establishes a connection between said attenuating space and said inlet opening.

12. The exhaust-gas muffler of claim 10, wherein said diaphragm is configured in one of said half shells and establishes a connection between the end of said resonance pipe facing away from said inlet opening and said attenuating space.

13. The exhaust-gas muffler of claim 10, wherein said

diaphragm has an equivalent diameter ( $d, d'$ ) measured in millimeters which amounts approximately 1 to 3 times the square root of the volume of the piston displacement of said engine with said volume being measured in cubic centimeters.

14. The exhaust-gas muffler of claim 10, wherein said diaphragm has an equivalent diameter ( $d, d'$ ) measured in millimeters which amounts approximately 1.2 to 2.4 times the square root of the volume of the piston displacement of said engine with said volume being measured in cubic centimeters.

15. The exhaust-gas muffler of claim 14, wherein said equivalent diameter ( $d, d'$ ) is variable in dependence upon the rpm of said engine.

16. The exhaust-gas muffler of claim 15, wherein said resonance pipe has an equivalent diameter ( $D$ ) measured in millimeters which amounts to approximately 2.5 to 6 times the square root of the volume of the piston displacement of said engine with said volume being measured in cubic centimeters.

17. The exhaust-gas muffler of claim 16, wherein said equivalent diameter ( $D$ ) of said resonance pipe is approximately constant over the length ( $L$ ) thereof.

18. The exhaust-gas muffler of claim 1, wherein the length ( $L$ ) of said resonance pipe is matched to the engine speed (rpm) of said engine.

19. The exhaust-gas muffler of claim 1, wherein the length ( $L$ )

of said resonance pipe is matched to 60% to 100% of the rated rpm of said engine speed (rpm).

20. The exhaust-gas muffler of claim 1, further comprising a catalytic converter.

20. The exhaust-gas muffler of claim 1, wherein said resonance pipe is one of a plurality of resonance pipes; and, wherein said exhaust-gas muffler further comprises means for switching in and out at least one of said resonance pipes.